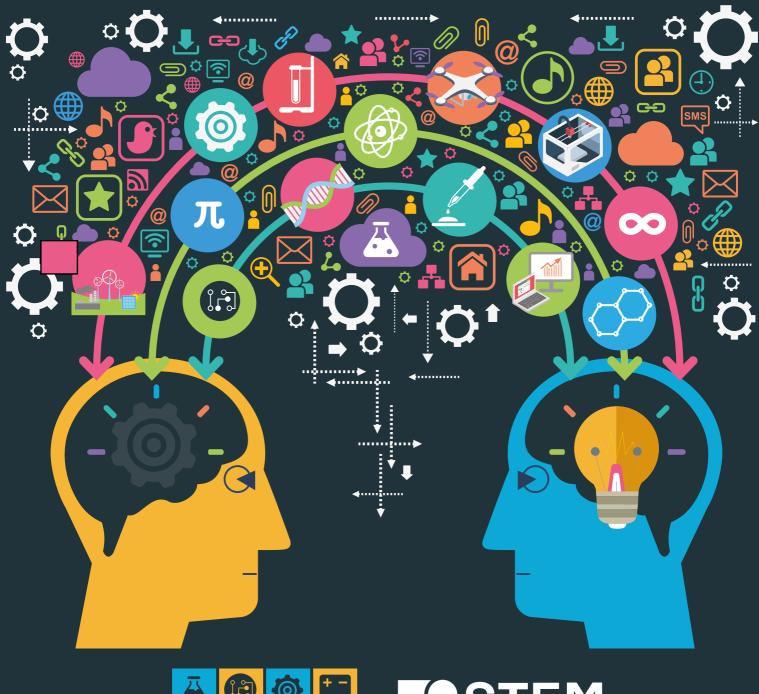


For the future you want

STEM Manifesto









Edinburgh College STEM Manifesto

This STEM Manifesto supports the delivery of our STEM Strategy which has been created in partnership with New Energy Foundation (NEF) GB Ltd to ensure Edinburgh College plays a leading role in supporting the development of strong STEM capability for the region.

The strategy positions the college to deliver cross-curricular provision to drive innovation, enterprise and employability.

Demand for STEM skills is increasing across a number of industry sectors. Through strategic investment in STEM development we will ensure our learners have better progression opportunities, employers get the right skills they need to grow their businesses, and the community prospers.

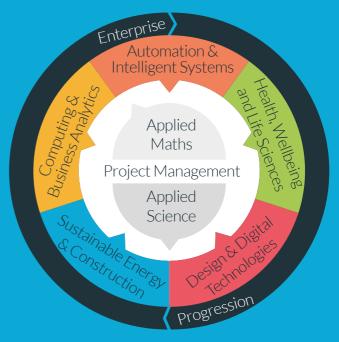
STEM is an interdisciplinary approach to teaching the key learning disciplines of science, technology, engineering and mathematics, preparing students for exciting, rewarding career options in an increasingly technological society.

Through an integrated and coherent industryinfluenced approach to STEM, we will develop the capability to deliver a new curriculum provision that meets the needs of key regional and national industrial sectors. This will ensure our students are digitally fluent and equipped to develop key skills to support our future economy.

Edinburgh College has been awarded the STEM Assured Standard by the STEM Foundation.

STEM Assured is an integrated, leading-edge standard that offers a practical way to validate, benchmark STEM provision and drive innovation systematically.

STEM Assured status promotes a strategic commitment to developing scientific and technical excellence that has been validated independently.



Our Aims

- To develop a coherent and integrated approach to STEM that addresses regional demand, improves engagement and enables progression.
- To develop new cross-curricular provision that reflects validated demand in areas of economic growth and embeds innovation, entrepreneurship and enterprise in all STEM programmes, preparing our students for successful and sustainable careers.
 - To ensure that the STEM curriculum is as technologically relevant and current as possible, by working with employers and industry to increase the number and diversity of progression pathways in order to address the skills demand and drive economic prosperity.
- To further develop progression pathways that will afford all learners the opportunity to participate in the STEM based economy and demonstrate curriculum links to career opportunities, fostering a culture of enterprise learning and learner career development.

STEM Pledges

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We will ensure that STEM is given prominence and status in the college and the community it serves

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We will commit to strengthening the skills pipeline of learners from schools to employment and higher education We will proactively engage with employers to equip learners with the skills and knowledge required to meet current and future market demand We will commit to build understanding, knowledge and expertise of STEM to support an innovative and progressive portfolio Ð

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We will commit to supporting and delivering STEM progression routes into further and higher education, training or employment

Future Focused Edinburgh College will develop its STEM provision with a focus on five strategic curriculum clusters:

Automation & Intelligent Systems

Future trends for the region indicate manufacturing output will increase.

The regional picture is combined with a trend across the wider UK manufacturing sector to diversify into high-value manufacture including composite materials and industrial biotechnology. This will require new resource efficiency methods, control systems, process technologies and materials which will create demand for highly skilled and adaptable learners.

Health, Wellbeing & Life Sciences

Employment in the healthcare sector comprises 15.1% of local labour demand in Edinburgh where there is predicted to be large growth in employment. This cluster represents the interconnectivity of health and wellbeing with a focus on biological, analytical and sport sciences as well as clinical areas of physiotherapy, sports therapy, nutrition and dietetics. Employer demand towards 2020 suggests the need for high level skills in clinical trials, advanced genetic research techniques, bioinformatics, bi-processing, practical laboratory skills and manufacturing practice as well as analytical chemistry technician skills.



Design & Digital Technologies

Between now and 2020 the number of digital tech professionals in Scotland is forecast to grow by 1.91% per year to 84,000. The Scottish Tech sector is healthy and vibrant. It employs 73,000 people, primarily in high value jobs and makes a direct contribution of £3billion per year to the Scottish economy.

Edinburgh is now emerging as the largest technology hub outside London. It has seen an acceleration in the number of digital technology companies basing themselves in the capital.

Arts and other services in design technologies between now and 2022 will see employment demand increase.

Sustainable Energy & Construction

The renewable energy sector continues to expand in Scotland, with increased demand for energy predicted to grow by more than 50% by 2035.

The power generation sector is still developing and will require a cross-curricular skillset that spans construction, engineering, IT, environmental and design disciplines.

Employment in construction is projected to grow at a rate of 13.1% in Edinburgh and the Lothians, as outlined in the economic assessment forecast to 2022. Forecast drivers of growth within the construction sector are centred on energy and the environment and occupations in the low-carbon/ green economy and renewable technologies.

Computing & Business Analytics

Projected growth in the digital technology sector in Edinburgh Fife and the Lothians to 2022 is 36%.

The Computing & Business Analytics cluster will focus on the applications of cloud computing, information and communication technologies and their applications including cyber and smart systems and networks, as well as big data and security. Students on programmes within this cluster can gain the skills needed to undertake programming projects, be exposed to the latest trends in software development, design and testing, and be familiar with interface, tools and software development kit (SDK) methodologies and configurations.







For the future you want

Excellence and innovation past and present

Edinburgh College is one of the largest regional further education colleges in Scotland with around 20,000 students from more than 100 countries. We have developed strong partnerships with employers and universities to ensure our students have the best opportunities for employment or further study.

With its legacy roots firmly established in construction, engineering and science, the college is committed to excellence and innovation and is well placed to deliver on our STEM pledges. The expansive and progressive curriculum has been designed to meet the needs of industry and provides our students with enhanced skills and abilities to ensure they are prepared to meet the demands of the modern workplace.

The college will utilise its employer relationships and industry connections to maintain the relevance of the curriculum and its alignment to current and future skills requirements.

Scotland's colleges make a significant contribution to the Scottish economy, delivering £6.30 for each £1 invested and an annual rate of return of 16.4%*. The economic impact of Scotland's colleges to the business community in Scotland is £14.9 billion each year.

*Source: Economic Modelling Specialists International (EMSI) September 2015



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